

## AMENDED CLAIMS

1. (original) A layer sequence or structure comprising a sequence of layers disposed one on another with  
a first highly doped  $n_d$ -GaAs layer (3);  
5 a graded layer (5) of AlGaAs on the firstly highly doped layer (3) whereby the aluminum concentration of this layer diminishes, starting from the boundary surface with the first highly doped layer, in the direction of the opposite boundary surface of the AlGaAs layer (5); and  
10 a second highly doped  $n^+$ -layer (7), characterized in that on at least one boundary layer of the AlGaAs layer (5) an undoped intermediate layer (4,6) juxtaposed with the respective highly doped layer (3,7) is provided.

15 2. (currently amended) A layer sequence or structure in accordance with ~~the preceding claim~~ claim 1, characterized in that the undoped intermediate layer is composed of GaAs (4,6).

20 3. (currently amended) A layer sequence or structure in accordance with ~~one of the preceding claims~~ claim 1 characterized in that GaAs is the material for the highly doped  $n^+$ -layer (7).

4. (currently amendment) The layer sequence according to ~~one of the preceding claims~~ claim 1 characterized in that silicon or tellurium is the doping substance.

25 5. (currently amended) The layer sequence or structure according to ~~one of the preceding claims~~ claim 1 characterized in

that the layer sequence e (3, 4, 5, 6, 7) is arranged on further layers (1, 2).

5 6. (currently amended) The layer sequence or structure according to ~~one of the preceding claims~~ claim 1 characterized in that the layer sequence (3, 4, 5, 6, 7) is disposed on a n<sup>-</sup>-GaAs layer (2).

10 7. (currently amended) The layer sequence of ~~the preceding claim~~ claim 6, characterized in that the n<sup>-</sup>-GaAs layer (2) is disposed on a highly doped n<sup>+</sup>-layer (1); especially of GaAs.

8. (currently amended) The layer sequence or structure according to ~~one of the preceding claims~~ claim 1, characterized in that the first highly doped n<sub>d</sub>-GaAs layer (3) and/or the second highly doped n<sup>+</sup>-layer (7) are doped with up to 10<sup>18</sup> cm<sup>-3</sup> silicon.

9. (original) A method of making a layer sequence or structure with the steps:

a first highly doped GaAs layer (3, 7) is disposed on a substrate,

5 on the first highly doped GaAs layer (3,7) an underdoped GaAs layer (4,6) is arranged and epitaxied at an appropriate temperature,

on the underdoped GaAs layer (4, 6) a graded AlGaAs layer (5) is disposed.

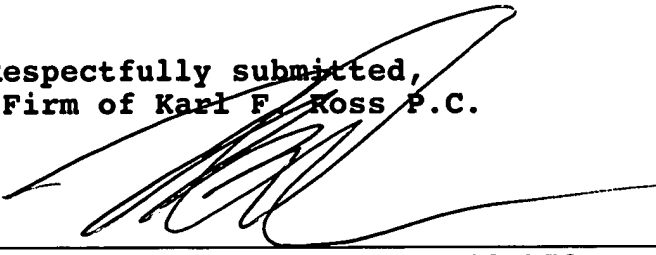
10 10. (currently amended) A method according to the preceding claim claim 9 characterized in that on at least one further boundary surface of the AlGaAs (5) a second undoped GaAs layer (4, 6) is arranged and epitaxied at a suitable temperature.

15 11. (currently amended) A method according to ~~one of the preceding claims 9 or 10~~ claim 9, characterized in that a further highly doped GaAs layer (3, 7) is disposed on the second undoped GaAs layer (4, 6).

12. (original) A layer sequence or structure comprising  
a series of layers disposed one on another with  
a first highly doped layer,  
a graded layer arranged on the first highly doped layer,  
a second highly doped layer,  
characterized in that on at least one boundary surface of  
the graded layer an undoped intermediate layer is arranged and  
juxtaposed with one of the highly doped layers.

This preliminary amendment is submitted to provide the cross reference of the present national US phase of PCT/DE2003/003867 to the international application according to Rule 78, and to eliminate multiple dependencies in the claims.

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Respectfully submitted,  
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